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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,751	10/27/2003	Masakazu Uesugi	NAN-0232	8839

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EXAMINER

SOOHOO, TONY GLEN

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 08/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/692,751

Applicant(s)

UESUGI ET AL.

Examiner

Tony G. Soohoo

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

2. Claims 1-4 are objected to because of the following informalities: The obvious typographic error in claim 1, line 10 "agitation motor surface" should be corrected to – agitation rotor surface--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-4 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification fails to adequately teach the structure which provides an external force and the scope of a positive structure which meets the recited means in the claim(s).

The specification only recites "Accordingly, in order to maintain the constant bearing clearance between the agitation rotor 2 and the fixed portion 1 against this pressure, it is necessary to apply an external force F to the agitation rotor 2 in a

Art Unit: 1723

rotation axis direction thereof and to balance this external force F with the pressure of the fluid lubricating film.

The specification only points out a desire to provide a force but fails to adequately describe what structure is utilized to achieve such a result. Thus one can not determine the positive structure and its structural equivalents envisioned by the disclosure as the means for applying an external force to the agitation rotor.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The scope of structural equivalents and the structure provided by the element of "means for applying an external force to the agitation rotor" is so vague in the specification, that one can not determine any structure or its equivalents. Thereby claims 1-4 are rendered vague in scope.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being anticipated by Berchoux 4529321.

The Berchoux reference discloses a homogenizer with a fixed portion of the housing cover 1 which is defined by the cover forming an inlets 1,6, and a disc shaped

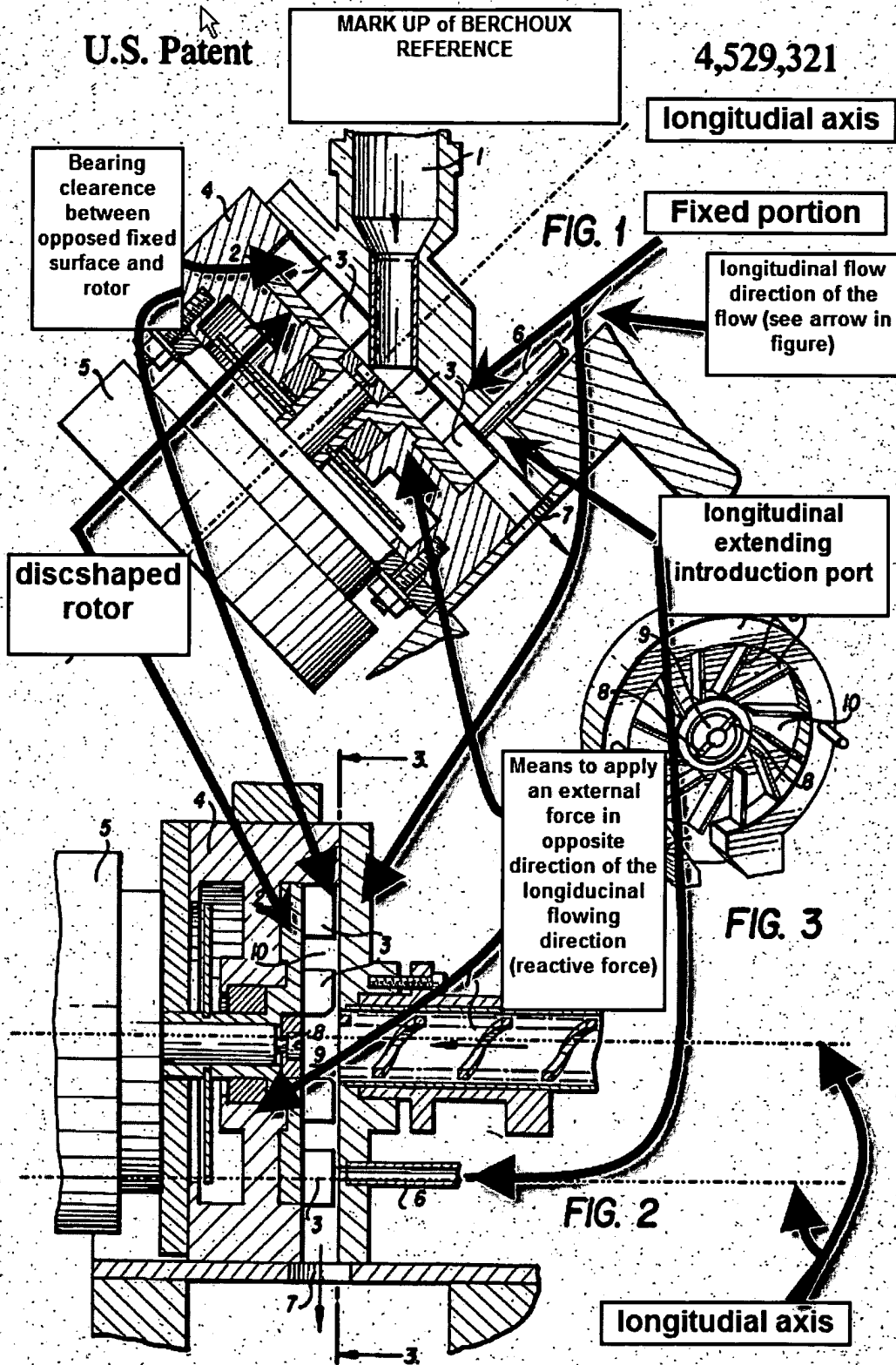
Art Unit: 1723

agitation rotor 2 with radial grooves formed between along the vanes 3 and 8,9 which faces in a face to face opposed manner to the fixed portion of the housing cover at 1 and the rotor and thereby providing a bearing clearance whereby raw liquids may be fed into by the inlets.

It is deemed that such a configuration provides a “hydrodynamic bearing” to the same extent as applicant’s allegation in the body of the claims whereby the Berchoux reference discloses all of the recited corresponding structural element as defined within the scope of the claims, and is capable to operate to be fed with plural raw fluids into the inlets. It has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987). “the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product. Whether the rejection is based on ‘inherency’ under 35 U.S.C. 102, on ‘*prima facie* obviousness’ under 35 U.C.S. 102, jointly or alternatively, the burden of proof is the same.” *In re Fitzgerald*, 205 USPQ 594 (CCPA 1980) (quoting *In re Best*, 195 USPQ 430, 433-434 (CCPA 1977)). It is further noted, “where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied upon” *In re Swinehart* 169 USPQ 226, 229 (CCPA 1971).

As explained in *In re Schreiber* 44 USPQ2d 1429 (CA FC 1997): "A patent applicant is free to recite features of an apparatus structurally or functionally. [] Yet, choosing to define an element functionally, *i.e.*, by what it does, carries with it a risk. As our predecessor court stated in *Swinehart*, 439 F.2d at 213, 169 USPQ at 228: where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied upon".

With regards to the means for applying an external force to the agitation rotor in a direction opposite the longitudinal flow in direction, note the housing and motor bearings in the housing provides a structure to produce a reactive external force upon the rotor to provide a predetermined spacing of the bearing clearance in reaction to the feed pressure provided by the introduction port.



Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Berchoux 4529321 in view of Auerbach 1790967.

The Berchoux reference, as modified, discloses all of the recited subject matter as defined within the scope of the claims including with radial pumping grooves formed between along the vanes 3 and 8,9 which faces opposed to the fixed portion and an agitation groove formed there between vanes 3 and 8.

The Berchoux reference discloses all of the recited subject matter as defined within the scope of the claims with the exception of pumping grooved being spiral shaped.

The reference to Auerbach 1790967 shows a disc impeller 5 vanes 6 which provides a spiral grooves there between and a portion radially between the vanes 6 best seen in figure 2, at 15 forming an agitation groove to produce a vortex, page 2, lines 23-33.

In view of the showing and discussion of Auerbach, figure 2, that a disk with vanes in the configuration of figure 2 may produce a vortex for emulsion, it is deemed

Art Unit: 1723

that it would have been obvious to one of ordinary skill in the art to substitute the for the rotor groove arrangement with an arrangement as shown by Auerbach so that a vortex is formed for greater dispersion and emulsion of materials fed into the device of Berchoux.

10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Berchoux 4529321 in view of US 2002/0060950 to Furukawa.

The Berchoux reference discloses all of the recited subject matter as defined within the scope of the claims with the exception of having a pressure relief valve (release port) to adjust the pressure in the homogenizer bearing clearance space between the rotor and the fixed portion of the housing.

The reference to Furukawa teaches that an emulsifying means 60, see figure 1, may be fed material by a pump line inlet which has a relief valve 70 fluidly connected to the fluid inlet line. It is noted that the relief of pressure by valve 70 would inherently relieve pressure inside the emulsifying means 60, this may provide a desired safety feature to the emulsifying means, see paragraph [0071].

In view of the teaching of Furukawa that a relief valve may be connected to the inlet pressure feed line of an emulsifying device to provide a safety operation, it is deemed that it would have been obvious to one of ordinary skill in the art to provide a relief valve in the inlet pressure line of the Berchoux device so that the pressures inside the chamber of the housing between the rotor and the housing is maintained in a safe operation parameter.

Response to Arguments

11. Applicant's arguments filed 12-6-2005 have been fully considered but they are not persuasive.

12. Applicant alleges that the references do not show thrust hydrodynamic bearing and a means for applying an external force to an agitation rotor, and a fixed portion with a longitudinally extending introduction port with an intended use of supplying plural incompatible raw liquids.

13. In response, the detailed rejection made above has identified the features of thrust hydrodynamic bearing and a means for applying an external force to an agitation rotor, and a fixed portion with a longitudinally extending introduction port. The recitation of an intended use of supplying plural incompatible raw liquids has been afforded with no patentable structural distinction to the scope of the structural apparatus claims.

Conclusion


14. The prior art made of record in the previous office action and not relied upon is considered pertinent to applicant's disclosure. And is noted again for the following reasons: Uesugi et al 6869212 is related to the cited references cited on PTO 1449. The following disclose disc rotors and a fixed portion: Messmore 2272573, Thompson et al 4172668, Ramsay 5984627, Cusi 2853280, Jacobsen 2239152, Zucker 3995838. The following disclose hydrodynamic bearing systems: Ramsay 5984627 and 6210103, and 5827042, Schwartzman 4828402.

Art Unit: 1723

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony G. Soohoo whose telephone number is (571) 272 1147. The examiner can normally be reached on 7-5PM, Tue-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Tony G. Soohoo
Primary Examiner
Art Unit 1723

TONY G. SOOHOO
PRIMARY EXAMINER

1223